



## LOUISIANA NATURAL AND SCENIC RIVERS SYSTEM

**PERMIT APPLICATION**Permit # 943 (Assigned by Department)

The Louisiana Department of Wildlife and Fisheries' Scenic Rivers program is authorized by LRS title 56, Chapter 9 Part II. This law requires permits authorizing activities in or affecting rivers that have been designated by the Louisiana Legislature as Natural and Scenic. Information provided on this form will be used in evaluating the application for a permit. Information in this application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary, however, the data requested are necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

**APPLICANT INFORMATION**

Name of Applicant Kansas City Southern Railway Company (Srikanth Honnur)	Name of Agent (if any) Curtis Robertson (Headwaters, Inc.)
Address P.O. Box 219335	Address P.O. Box 2836
Address	Address
City, State, Zip Kansas City, Missouri 64121-9335	City, State, Zip Ridgeland, Mississippi 39158-2836
Phone 816-983-1138	Phone 601-634-0097

**DESCRIPTION OF THE PROPOSED ACTIVITY**

Brief summary of the description and purpose of the proposed activity (details to be attached as a separate document)

The project includes the replacement of the existing Bridge L801.8 spanning Bayou Manchac in East Baton Rouge and Ascension Parish.

Is any portion of the activity complete? YES or (NO) (If yes, indicate month and year of completion)

**LOCATION OF PROPOSED ACTIVITY**

Stream Name	Bayou Manchac	Names, Addresses, Phone Numbers of Adjacent Property Owners
Parish	East Baton Rouge and Ascension	See Attachments
Section	See Attachments	
Township		
Range		
Latitude/Longitude	30.337662, -91.006293	

**ENVIRONMENTAL ASSESSMENT**

Must be a separate document. See the attached instruction sheet for completing the assessment.

**CONFIRMATION OF INFORMATION ACCURACY**

Application is hereby made for a Scenic River Permit to authorize the activities described herein. I certify that I am familiar with the information contained in this application and that, to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities, or I am acting as the duly authorized agent of the applicant.

Signature

Date



July 27, 2015

Mr. Chris Davis  
Biologist, Environmental Investigations  
Louisiana Department of Wildlife and Fisheries  
Post Office Box 98000  
Baton Rouge, Louisiana 70898-9000

**Re: The Kansas City Southern Railway Company  
New Orleans Subdivision Bridge L801.8  
Ascension and East Baton Rouge Parish, Louisiana  
Scenic Rivers Permit Request**

Dear Mr. Davis:

Headwaters, Inc. has been retained by The Kansas City Southern Railway Company (KCS) to serve as agent on their behalf in all matters related to the above referenced New Orleans Subdivision Bridge L801.8 Replacement Project within Ascension and East Baton Rouge Parish, Louisiana. This letter, with the attached documents, details the specifics of the planned project and contains the necessary information relative to the request for authorization for the project activities under the Louisiana Department of Wildlife and Fisheries (LDWF) Louisiana Natural and Scenic Rivers System.

#### **PROJECT LOCATION**

The KCS New Orleans Subdivision Bridge L801.8 currently consists of an approximately 536 foot long timber bridge structure spanning a segment of Bayou Manchac, which converges with the Amite River east of the proposed project area. Bridge L801.8 is located along the KCS mainline within the New Orleans Subdivision, which is maintained within an approximate 100 foot right-of-way. The KCS mainline is located west of U.S. Highway 61 and east of U.S. Interstate 10. Bridge L801.8 is located generally southeast of Baton Rouge, East Baton Rouge Parish, Louisiana and generally northwest of Gonzales, Ascension Parish Louisiana. More specifically, the project site is located within a portion of Section 54, Township 8 South, Range 2 East, East Baton Rouge Parish, Louisiana and Section 15, Township 8 South, Range 2 East, Ascension Parish, Louisiana. The bridge may also be referenced by Global Positioning System (GPS) coordinates N30.337662° - W91.006293°.

The proposed project area includes approximately 3.13 acres of the existing KCS right-of-way and the adjoining landowner to the southeast. The proposed project area would extend approximately 200 feet north of the existing north abutment on both sides of the mainline, approximately 150 feet south of the existing south abutment on the west side, approximately 760 feet south of the existing south abutment on the east side, and both side of the KCS right-of-way within the limits of the bridge structure. Vehicular access to the project area would be provided via the adjoining landowner's property in the southeast quadrant of the project area.

## PROJECT DESCRIPTION

The KCS Bridge L801.8 was originally constructed spanning a reach of Bayou Manchac utilizing timber bents with timber caps, timber beams, and timber headwalls. The existing bridge is approximately 536 feet long and was constructed utilizing timber bents with timber caps, timber beams, and timber abutments. KCS proposes to replace the existing bridge with a precast concrete bridge approximately 401' - 8" long by approximately 17' wide. The north bridge abutment will be moved approximately 9' - 10" to the north and the area between the existing abutment and the proposed abutment will be excavated. The excavated material will be hauled offsite for proper disposal. The south bridge abutment will be moved approximately 143' - 11" to the north. The area between the new abutment and the existing abutment will be filled with silty clay loam free from contaminants obtained from an approved offsite location. A new slope will extend approximately 26' - 9" in front of the new south abutment and will be lined with approximately 12" of riprap to prevent future erosion issues. The overall length of the bridge will be shortened approximately 134' - 4". The reduction in the bridge length will reduce the long term maintenance of the bridge and provide safer passage of trains.

Currently present within the bridge span are 41 timber bents with concrete and timber caps which includes two (2) timber abutments. The proposed bridge will consist of 12 spans supported by 13 bents including two (2) new bridge abutments. Bents #1 (north abutment), 2, and 13 (south abutment) will be constructed utilizing three (3) steel pilings each coated with asphalt emulsion coating with precast concrete bent caps and bents #3, 5, 6, 9, 10, and 11 will consist of four (4) steel pilings each. Bents #4, 7, 8, and 12 will be double bents with six (6) steel pilings each. Bents #5 and 6 and bents #10 and 11 will be connected utilizing additional channel bracing. The existing timber bents will be removed approximately one (1) foot below the mud line. The proposed bridge would be an approximately 17 foot wide ballast deck bridge constructed from precast concrete box beams. The deck will consist of approximately eight (8) inches of ballast fill with typical rail construction. The new abutments will be constructed from steel H-piles with precast abutment caps and precast abutment backwalls and wingwalls.

### Construction Methodology and Access:

The proposed project area includes approximately 3.13 acres and includes portions of the KCS right-of-way and a portion of the adjoining landowner's property. Construction equipment and materials will be brought to the site via truck and railcar. Access to the proposed project area would be provided from the southeast quadrant of the project area via a private landowner. Access to the private landowner's property would be provided via Magnolia Estates entering the existing driveway in the back of the cul-de-sac. A temporary access road would be constructed off of the driveway entering the east side of the KCS right-of-way.

The vegetation within the entire project area would be removed to allow construction access and storage. A temporary access road would be constructed within the east side of the KCS right-of-way south of the existing south bridge abutment to facilitate storage and transport of construction materials. The road would be constructed from material brought to the site by railcar.

It is proposed to complete the proposed construction activities from a temporary work bridge along the east side of the existing bridge structure. The temporary bridge will provide a stable surface for the crane for bridge construction. The temporary bridge structure will be approximately 20 feet wide and will extend the entire width of Bayou Manchac at the location of the bridge. The temporary bridge will be constructed from steel pipe piles, steel pile caps, and steel trestle cross beams. Timber crane mats will form the platform and work surface on the

temporary bridge. This method was chosen to maintain natural flows within Bayou Manchac throughout the construction sequence and is least damaging to Bayou Manchac. This option will allow for better restoration of the channel following the completion of the proposed project due to no fill being placed within the channel. All portions of the temporary bridge will be removed following the completion of the proposed construction activities.

A temporary ramp will be constructed approximately 150 feet south of the south bridge abutment to facilitate the unloading of equipment and materials from the mainline rail. The ramp will be approximately 40 feet wide and 100 feet long and constructed from riprap. Following the completion of the construction activities, all materials utilized to construct the ramp and temporary access road will be removed from the site.

All excess materials placed within the right-of-way and construction debris will be removed after the completion of the project restoring the right-of-way to preconstruction contours and conditions. Prior to the demobilization from the site, it is the intention to ensure that the site is stabilized. Construction will be completed during windows to maintain train traffic along this line.

Best Management Practices (BMP's) will be implemented and maintained as necessary through the construction sequence to ensure that no secondary adverse impacts to adjacent habitats occur. BMPs may consist of silt fences, turbidity curtains, floating debris net booms, and any other measures needed to prevent sediment and debris from the construction process from entering Bayou Manchac. The construction plans will create only a temporary impact to the channel and is not intended to create long term impacts to water quality or fisheries habitat. It is the intention of KCS to reconstruct the bridge structure utilizing the most effective BMP's to prevent adverse environmental impacts to the bayou. Due to the nature of the project and that minimal activities are occurring below mean high water, adverse impacts to the bayou are not anticipated.

## PROJECT PURPOSE

KCS would respectfully request the consideration of the issuance of the appropriate Louisiana Department of Wildlife and Fisheries Scenic Rivers Permit associated with the replacement of KCS Bridge L801.8 spanning Bayou Manchac. The proposed construction activities are intended to correct maintenance issues with the bridge and prevent potential down time along the mainline. Construction activities associated with this project are proposed to commence in October 2015.

The exact physical location of the proposed project site is depicted on the attached copy of the 2013 U.S.D.A. National Agricultural Imagery Program (NAIP) photographic coverage and U.S.G.S. St. Gabriel NE, Louisiana Quadrangle Site Maps (Attachment A). Also included within Attachment A are copies of site plan and elevations depicting the proposed plan provided to us by KCS.

## PERMITTING PROCESS

As previously noted, our firm is acting as agent to obtain all pertinent environmental permits required for the construction of the planned activities. The following is a listing of permits obtained or requested on behalf of KCS:

1. U.S. Army Corps of Engineers (USACE) Section 404 Wetlands Permit – An application has been submitted to the Regulatory Branch of the USACE New Orleans District for their review issuance of the appropriate Section 404 Wetlands Permit.

2. U.S. Coast Guard (USCG) – Coordination with the USCG has been conducted regarding the potential need for a USCG bridge permit. The USCG stated in a letter dated June 11, 2015 that Bayou Manchac is tidally influenced and is subject to their jurisdiction. However the size of the waterway at the site of the bridge restricts the passage of large vessels and the waterway at this location meets the criteria for the Advance Approval category for permitting the construction of bridges. A specific USCG bridge permit is not required for this project.
3. East Baton Rouge Parish Department of Transportation and Drainage – We are currently consulting with East Baton Rouge Parish regarding the issuance of any pertinent permit requirements.
4. Ascension Parish Department of Public Works and the Engineering Department – We are also coordinating with Ascension Parish for issuance of the appropriate floodplain and road permits.

### COMPLIANCE HISTORY

Our firm has had the privilege to work with KCS for approximately 18 years assisting with projects throughout the southeastern United States. It has been our experience that KCS has respected and completed the pertinent environmental permitting requirements for each of their projects. To my knowledge, KCS has not been cited for a violation of the Scenic Rivers Act.

### AVOIDANCE AND MINIMAZATION

During the initial planning of this project, KCS considered alternative designs and construction methodologies that would best meet the objective of their project. The alternative designs considered the minimization of potential wetland and "other water" impacts while providing a bridge structure suitable for this site and to sustain routine train traffic. Upon the completion of the alternative analysis, it was determined that the proposed L801.8 replacement project best suits the project site providing the least environmentally damaging practicable alternative.

As described, the project design will include the replacement of the existing structure limiting the impacts to Bayou Manchac to the removal of the existing pilings, the installation of new pilings to support the new bridge structure, and proposed temporary construction bridge.

1. No Build Alternative: The no build alternative was initially dismissed as a viable alternative due to the need to repair or replace the L801.8 bridge structure located spanning Bayou Manchac along the KCS mainline. Under this alternative, the necessary repairs to the bridge structure would not be completed. Potential downtime along the mainline and a disruption in trade could result with this alternative.
2. Fill Alternative: When considering a bridge design, alternatives typically include replacement of the bridge structure with culvert/pipes and the back filling of the timber trestle structure. This reduces the long-term maintenance requirements and is substantially less in cost than replacing the crossing with a bridge structure. After further review and consideration, it was determined that this alternative design would potentially reduce hydrologic flows within the bayou. Further, this design would potentially raise the base flood elevations upstream from the river. This alternative would also impact "other waters" habitat associated with Bayou Manchac through the completion of the filling activities. Given this, this alternative bridge design was dismissed as a viable alternative.

3. Alternate Location: This alternative was considered not applicable to this project due to the fact that the KCS mainline extends across Bayou Manchac at this location since 1938 and is dependent on the presence of the existing KCS mainline. An alternate location for the bridge structure would require significant rail modifications and is not considered a viable option.
4. Chosen Alternative: The chosen alternative includes the replacement of the degraded bridge structure with a KCS standard bridge structure within the same location. The replacement project will not include additional permanent impacts to Bayou Manchac or the adjacent habitats. The replacement project will be constructed within the same general footprint of the existing structure. The replacement of the project will ensure the stability of the bridge and maintain train traffic along this alignment.

## CONCLUSION

At this time, we respectfully request your agency's review of the submitted information covering the proposed project activities. We also respectfully request your agency's consideration of the authorization for the Louisiana Natural and Scenic Rivers System Permit.

For mailing purposes, the applicant's address is as follows:

Mr. Srikanth V. Honnur  
The Kansas City Southern Railway Company  
P.O. Box 219335  
Kansas City, Missouri 64121-9335

As always, we appreciate your assistance in this matter. If you have any questions or need any additional information, please do not hesitate to contact us.

Sincerely,



Curtis R. Robertson, R.F.  
Environmental and Forestry Specialist

CRR\  
Attachment

C: Mr. Srikanth V. Honnur, KCS





## State of Louisiana

BOBBY JINDAL  
GOVERNOR

DEPARTMENT OF WILDLIFE AND FISHERIES

ROBERT J. BARHAM  
SECRETARY

Dear Scenic River Permit Applicant:

Please review and concur on the following statement regarding the issuance of permits by the Louisiana Department of Wildlife and Fisheries. This agreement must be signed and returned before a Scenic River Permit can be issued.

"I have been advised and do understand that by applying for and accepting a Scenic Rivers permit issued by the Louisiana Department of Wildlife and Fisheries, I am being allowed to engage in an activity which would otherwise be prohibited by law or for which a permit is required. I understand that the permit is not a license and confers no property right upon me. I specifically agree to abide by all State and Federal fish and wildlife laws and regulations, and all State and Federal laws and regulations which relate to this permit or the permitted activity, and by all other terms and conditions of this permit. I understand that the permit for which I am applying may be suspended, annulled, withdrawn or revoked and that I may be assessed civil penalties, all in accordance with the provision of the Louisiana Administrative Procedure Act, and that I may be denied future permits as a consequence of my failure to fully and completely comply with the terms and conditions of the permit, as well as other laws and regulations pertinent thereto. If served with or notified of a cease and desist order signed by the Scenic Rivers Administrator, I agree to immediately and without delay cease all activities and operations which relate to the permitted activity or which are impacting the Scenic River, until such time as the matter can be resolved in an adjudicatory hearing pursuant to the Louisiana Administrative Procedure Act. I understand and agree that any permit issued to me by the Louisiana Department of Wildlife and Fisheries is in the nature of a privilege which is being voluntarily extended to me by the Department and the failure on my part to cooperate with the Department can result in the loss of the privilege conferred and the denial of future requests for permits. By accepting this permit, I evidence my agreement to be bound by all conditions and stipulations set forth herein."

*Rikantt W*

Authorized Signature

*Aug. 11, 2015*

Date

REV. 12/7/98

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# Environmental Assessment

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Prepared for:  
Louisiana Department of  
Wildlife and Fisheries  
Scenic Rivers Program  
368 CenturyTel Drive  
Monroe, Louisiana 71203

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On Behalf Of:  
Kansas City Southern  
Railway Company

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Bridge L801.8 Replacement Project

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August 2015

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**ENVIRONMENTAL ASSESSMENT  
THE KANSAS CITY SOUTHERN RAILWAY COMPANY  
BRIDGE L801.8 REPLACEMENT PROJECT  
EAST BATON ROUGE AND ASCENSION PARISH, LOUISIANA**

**1.0 INTRODUCTION**

The Kansas City Southern Railway Company (KCS) Bridge L801.8 currently consists of an approximately 536 foot long timber bridge structure spanning a reach of Bayou Manchac. Bridge L801.8 is located along the KCS mainline within the New Orleans Subdivision, which is maintained within a 100 foot right-of-way. Bridge L801.8 is located southeast of the City of Baton Rouge, East Baton Rouge Parish, Louisiana and northwest of the City of Gonzales, Ascension Parish, Louisiana. In addition, the proposed project area is located east of the U.S. Interstate 10 and west of U.S. Highway 61. More specifically, the project site is located within portions of Section 54, Township 8 South, Range 2 East, East Baton Rouge Parish, Louisiana and Section 15, Township 8 South, Range 2 East, Ascension Parish, Louisiana. The bridge may also be referenced by Global Positioning System (GPS) coordinates N30.337662° – W90.006293°.

**2.0 PURPOSE AND NEED**

The proposed construction activities are intended to correct maintenance issues with the bridge and prevent potential down time along the mainline. The project site is situated between Baton Rouge and Gonzales, Louisiana both of which maintain active and important ports along the Mississippi River. The KCS mainline in this area is part of a national and international transportation and trade system, which includes railroad, trucks, and maritime transportation. The KCS mainline within the New Orleans Subdivision services the Port of New Orleans at the Napoleon Avenue Intermodal Rail yard and then traverses east-northeast along the east bank of the Mississippi River where many other industries are serviced. The mainline then traverses into Baton Rouge where KCS operates a major rail transportation hub, which directs train traffic to various parts of the region and throughout the rest of the U.S. and Mexico. The proposed construction activities are intended to correct maintenance issues with the bridge and prevent potential down time along the mainline. Preventing downtime along the mainline rail would in turn prevent interruptions in local, national, and international trade and economy.

KCS L801.8 bridge structure currently consists of timber pilings with timber and concrete caps, and timber beams, and timber headwalls. The need for the proposed project is demonstrated by the ongoing degradation of the materials utilized for the initial construction of the bridge. The original L801.8 bridge structure was constructed in 1938. The replacement of the bridge is necessary to maintain the existing train transit between New Orleans and Baton Rouge, Louisiana. As this is a bridge replacement project, alternative locations were not feasible for this project.

**3.0 PROJECT DESCRIPTION**

The KCS Bridge L801.8 was originally constructed spanning a reach of Bayou Manchac utilizing timber bents with timber caps, timber beams, and timber headwalls. The existing bridge is

approximately 536 feet long and was constructed utilizing timber bents with timber caps, timber beams, and timber abutments. KCS proposes to replace the existing bridge with a precast concrete bridge approximately 401' - 8" long by approximately 17' wide. The north bridge abutment will be moved approximately 9' - 10" to the north and the area between the existing abutment and the proposed abutment will be excavated. The excavated material will be hauled offsite for proper disposal. The south bridge abutment will be moved approximately 143' - 11" to the north. The area between the new abutment and the existing abutment will be filled with silty clay loam free from contaminants obtained from an approved offsite location. A new slope will extend approximately 26' - 9" in front of the new south abutment and will be lined with approximately 12" of riprap to prevent future erosion issues. The overall length of the bridge will be shortened approximately 134' - 4". The reduction in the bridge length will reduce the long term maintenance of the bridge and provide safer passage of trains.

Currently present within the bridge span are 41 timber bents with concrete and timber caps which includes two (2) timber abutments. The proposed bridge will consist of 12 spans supported by 13 bents including two (2) new bridge abutments. Bents #1 (north abutment), 2, and 13 (south abutment) will be constructed utilizing three (3) steel pilings each coated with asphalt emulsion coating with precast concrete bent caps and bents #3, 5, 6, 9, 10, and 11 will consist of four (4) steel pilings each. Bents #4, 7, 8, and 12 will be double bents with six (6) steel pilings each. Bents #5 and 6 and bents #10 and 11 will be connected utilizing additional channel bracing. The existing timber bents will be removed approximately one (1) foot below the mud line. The proposed bridge would be an approximately 17 foot wide ballast deck bridge constructed from precast concrete box beams. The deck will consist of approximately eight (8) inches of ballast fill with typical rail construction. The new abutments will be constructed from steel H-piles with precast abutment caps and precast abutment backwalls and wingwalls.

#### **Construction Methodology and Access:**

The proposed project area includes approximately 3.13 acres and includes portions of the KCS right-of-way and a portion of the adjoining landowner's property. Construction equipment and materials will be brought to the site via truck and railcar. Access to the proposed project area would be provided from the southeast quadrant of the project area via a private landowner. Access to the private landowner's property would be provided via Magnolia Estates entering the existing driveway in the back of the cul-de-sac. A temporary access road would be constructed off of the driveway entering the east side of the KCS right-of-way.

The vegetation within the entire project area would be removed to allow construction access and storage. A temporary access road would be constructed within the east side of the KCS right-of-way south of the existing south bridge abutment to facilitate storage and transport of construction materials. The road would be constructed from material brought to the site by railcar.

It is proposed to complete the proposed construction activities from a temporary work bridge along the east side of the existing bridge structure. The temporary bridge will provide a stable surface for the crane for bridge construction. The temporary bridge structure will be approximately 20 feet wide and will extend the entire width of Bayou Manchac at the location of the bridge. The temporary bridge will be constructed from steel pipe piles, steel pile caps, and steel trestle cross beams. Timber crane mats will form the platform and work surface on the temporary bridge. This method was chosen to maintain natural flows within Bayou Manchac

throughout the construction sequence and is least damaging to Bayou Manchac. This option will allow for better restoration of the channel following the completion of the proposed project due to no fill being placed within the channel. All portions of the temporary bridge will be removed following the completion of the proposed construction activities.

A temporary ramp will be constructed approximately 150 feet south of the south bridge abutment to facilitate the unloading of equipment and materials from the mainline rail. The ramp will be approximately 40 feet wide and 100 feet long and constructed from riprap. Following the completion of the construction activities, all materials utilized to construct the ramp and temporary access road will be removed from the site.

All excess materials placed within the right-of-way and construction debris will be removed after the completion of the project restoring the right-of-way to preconstruction contours and conditions. Prior to the demobilization from the site, it is the intention to ensure that the site is stabilized. Construction will be completed during windows to maintain train traffic along this line.

Best Management Practices (BMP's) will be implemented and maintained as necessary through the construction sequence to ensure that no secondary adverse impacts to adjacent habitats occur. BMPs may consist of silt fences, turbidity curtains, floating debris net booms, and any other measures needed to prevent sediment and debris from the construction process from entering Bayou Manchac. The construction plans will create only a temporary impact to the channel and is not intended to create long term impacts to water quality or fisheries habitat. It is the intention of KCS to reconstruct the bridge structure utilizing the most effective BMP's to prevent adverse environmental impacts to the bayou. Due to the nature of the project and that minimal activities are occurring below mean high water, adverse impacts to the bayou are not anticipated.

#### 4.0 EXISTING LAND USE

As mentioned, KCS maintains a 100 foot right-of-way within this portion of the alignment. As a part of the original construction activities during the early 1900's, fill material was placed within the right-of-way for the rail bed construction. To date, vegetation along the mainline rail is periodically clipped or sprayed to prevent vegetative interference with rail traffic. The bridge span has remained in place since 1938. While the mainline rail only occupies approximately 50% of this right-of-way with the remaining portion remaining undeveloped, the designated land use within the right-of-way is rail traffic only. Bridge L801.8 spans a segment of Bayou Manchac, a relatively permanent water (RPW) with typical year round flows which has recreational potential of fishing and/or boating. The channel width within the project area is approximately 150 feet, measured between the ordinary high water marks.

The area within the KCS right-of-way south of the bridge crossing that is currently undeveloped consists primarily of a forested habitat. The vegetative components within this area consists primarily of box elder (*Acer negundo*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), bald cypress (*Taxodium distichum*), and black willow (*Salix nigra*). Residential developments are located along the east and west side of the KCS right-of-way south of the bridge crossing. North of the bridge crossing, the KCS mainline is located adjacent to a golf course present on either side of the right-of-way.

Portions of the KCS right-of-way in this area are maintained as an open field as a part of the golf course facility. Additionally, a golf course cart path is located under the bridge near the north headwall to provide users of the golf course access from the east side of the mainline to the west side. However, as mentioned, the current land use is for rail transportation use only and has been since 1938.

The proposed project is not intended to alter the existing land use within the project area. As stated, the KCS right-of-way/project area has been designated for sole use of rail transportation. Following completion of the proposed project, the land use within the project area will remain as rail transportation.

## **5.0 WILDERNESS QUALITIES**

The general setting in which the proposed project area is located is dominated primarily by residential developments. As mentioned, the property adjacent to the KCS right-of-way north of the bridge crossing is maintained as a golf course. Residential developments are located adjacent to the golf course. Residential developments are located adjacent to the KCS right-of-way south of the bridge crossing. As such, the increased human activities within the vicinity of the project area has drastically reduced the wilderness qualities of the area as well as fragmenting the habitat. The proposed project is not anticipated to alter the wilderness qualities within the project area in anyway. The proposed bridge structure will be integrated with the existing KCS mainline along the north and south approaches. No other construction activities will be conducted in association with this project. The new bridge will resemble the existing bridge structure, but will utilize new, more durable materials that are planned to reduce long-term maintenance of the crossing. The proposed project is not anticipated to increase development within the area which would in turn further reduce the wilderness quality.

## **6.0 SCENIC VALUE**

As previously mentioned, the planned project consists of the removal of an existing timber and concrete bridge structure and the installation of a new steel and concrete bridge structure. The proposed bridge structure will be integrated with the existing KCS mainline along the north and south approaches. Also, a portion of the south bridge approach will be filled to shorten the bridge span and reduce the long term maintenance requirements associated with the bridge and provide a safe and reliable passage of trains. No other construction activities will be conducted in association with this project. The new bridge will resemble the existing bridge structure, but will utilize new, more durable materials that are planned to reduce long-term maintenance of the crossing. The proposed bridge replacement project is not anticipated to change the scenic value of the site as no new structures will be constructed and the new bridge will resemble the existing bridge in appearance and dimension.

## **7.0 ECOLOGICAL REGIMES**

Bayou Manchac can be described as a flow-through lotic ecosystem. This feature is characterized by inundation and flowing water throughout the year. Bayou Manchac once connected the Mississippi River at the west end with the Amite River at the east end and served as an important trade route to Native Americans and early settlers. Construction of the flood control levees



*East Baton Rouge and Ascension Parish, Louisiana*

following the flood of 1927 along the Mississippi River have disconnected Bayou Manchac from the Mississippi River and severed this trade route. The primary use became recreation and camps began to appear along the banks. Bayou Manchac is a direct tributary of the Amite River (USGS 8 digit HUC 08070202) and now serves to aid in relieving storm water runoff from the general area. The Amite River flows into Lake Maurepas which flows into Lake Pontchartrain which empties into the Gulf of Mexico via Lake Borgne and the Mississippi Sound. Water levels within Bayou Manchac are influenced by tides, rainfall runoff, and flood levels of the Amite River which will create backwater conditions in Bayou Manchac. Bayou Manchac supports a wide variety of aquatic flora and fauna. A wide variety of fish species such as largemouth bass (*Micropterus salmoides*), redear sunfish (*Lepomis microlophus*), and white perch (*Morone americana*) as well as the American alligator (*Alligator mississippiensis*). Many migrant and neotropical migrant avian species utilize the river during parts of the year for feeding, mating, and cover. Many native avian species also utilize the bayou throughout the year.

Bayou Manchac is included on Louisiana's 2012 Section 303(d) list of impaired water bodies and the 2014 Draft Section 303(d) list of impaired water bodies. The suspected causes of impairment are chloride, sulfates, and total dissolved solids. The suspected source of these impairments are from site clearance (land development or redevelopment), onsite treatment systems (septic systems and similar decentralized systems), sanitary sewer overflows (collection system failures), and unknown sources. Bayou Manchac is not supporting Primary Contact Recreation (swimming), but is fully supporting Secondary Contact Recreation (boating). Further, Bayou Manchac is not supporting Fish and Wildlife Propagation (fishing). The 2014 Draft Section 303(d) list of impaired water bodies indicates new data shows attainment and is no longer considered impaired by the State of Louisiana.

As a part of the construction activities, only short term or temporary disturbances are anticipated within the project site. Minimal disturbances within the river channel are anticipated during the construction activities associated with the removal of old pilings and installation of new pilings.

Currently present within the bridge span are 41 timber bents with concrete and timber caps, which includes two (2) timber abutments. The proposed bridge will consist of 12 spans supported by 13 bents including two (2) new bridge abutments. Bents #1 (north abutment), 2, and 13 (south abutment) will be constructed utilizing three (3) steel pilings each coated with asphalt emulsion coating with precast concrete bent caps and bents #3, 5, 6, 9, 10, and 11 will consist of four (4) steel pilings each. Bents #4, 7, 8, and 12 will be double bents with six (6) steel pilings each. Bents #5 and 6 and bents #10 and 11 will be connected utilizing additional channel bracing. The existing timber bents will be removed approximately one (1) foot below the mud line. The proposed bridge would be an approximately 17' wide ballast deck bridge constructed from precast concrete box beams. The deck will consist of approximately eight (8) inches of ballast fill with typical rail construction. The new abutments will be constructed from steel H-piles with precast abutment caps and precast abutment backwalls and wingwalls.

Only temporary disturbance within the channel is anticipated during the placement of new pilings, the removal of the existing pilings, placement of the temporary bridge pilings, and removal of the temporary pilings. BMP's will be implemented and maintained as necessary through the construction sequence to ensure that no adverse impacts to Bayou Manchac occur and to prevent secondary adverse impact to adjacent habitats. BMP's may consist of silt fences,

turbidity curtains, floating debris net booms, and any other measures needed to prevent sediment and debris from the construction process from entering Bayou Manchac.

The reconstruction plans of the bridge project would be anticipated to create only a temporary impact to the channel and is not intended to create long term impacts to water quality or fisheries habitat. Flora and fauna communities, potentially present within the confines of the project site, will only be disturbed or displaced within the limits of the existing bridge for a short duration. These communities will be allowed to naturally reestablish following the construction activities.

Bayou Manchac exhibits a thin riparian zone along each bank at the location of the proposed project area. This riparian zone consists of bottomland hardwood tree species including box elder (*Acer negundo*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), bald cypress (*Taxodium distichum*), and black willow (*Salix nigra*). The vegetation within a portion of the KCS right-of-way within the riparian zone is periodically maintained and kept at an emergent level to prevent vegetative interference with trail traffic. Vegetative species within this maintained area consists of Hydrophytic vegetation observed within the emergent wetland habitats includes *Polygonum spp.*, coco-yam (*Colocasia esculenta*), lizard's tail (*Saururus cernuus*), ladies ear drop (*Brunnichia cirrhosa*), palmetto (*Sabal minor*), box elder (*Acer negundo*) in the regeneration stage, black willow (*Salix nigra*) in the regeneration stage.

Adjacent to the riparian zone to the north is the Santa Maria Golf Course with surrounding residential developments. Adjacent to the riparian zone to the south are additional residential developments. Minimal wildlife utilization was observed within the riparian zone due to the surrounding developments.

Vegetation within the KCS right-of-way would be cleared during the proposed bridge construction activities. Following the completion of the construction project, the site would be stabilized with vegetation and then allowed to naturally restore to the preconstruction vegetative conditions.

## **8.0 RECREATIONAL USE/OPPURTUNITES**

The planned bridge will be constructed in the same location as the existing structure. The shaded area over Bayou Manchac is not anticipated to change from the existing bridge conditions. The bridge replacement project is not anticipated to create or remove any recreational uses or opportunities within the area. The new bridge pilings will maintain the fisheries structure and habitat created by the existing pilings configuration. The new bridge is not anticipated to hinder the recreational boating usage along Bayou Manchac and has the potential to increase this aspect, as the number of bents utilized to support the bridge will reduce from 42 currently to 16 proposed, therefore creating a more open waterway.

## **9.0 AESTHETIC VALUE**

As previously mentioned, the planned project consists of the removal of an existing timber and concrete bridge structure and the installation of a new steel and concrete bridge structure. The proposed bridge structure will be integrated with the existing KCS mainline along the north and

south approaches. No other construction activities will be conducted in association with this project. The new bridge will resemble the existing bridge structure, but will utilize new, more durable materials that are planned to reduce long-term maintenance of the crossing. The proposed bridge replacement project is not anticipated to permanently change the aesthetic value of the site as no new structures will be constructed and the new bridge will resemble the existing bridge in appearance and dimension. Temporary changes in the aesthetic value may occur during the construction process with the presence of construction equipment materials onsite. However, following completion, all equipment, materials, and debris will be removed from the site.

## 10.0 FISH AND OTHER AQUATIC LIFE

The proposed project area spans a segment Bayou Manchac. The bayou provides habitat to many species of fish including largemouth bass (*Micropterus salmoides*), redear sunfish (*Lepomis microlophus*), and white perch (*Morone americana*) as well as the American alligator (*Alligator mississippiensis*). Minimal disturbance within the bayou is anticipated within the construction of the new pilings and the removal of the existing pilings. Plant and animal communities will only be disturbed or displaced within the limits of the existing bridge for a short duration. These communities will be allowed to naturally restore themselves following the construction activities.

## 11.0 WILDLIFE

Many migrant and neotropical migrant avian species utilize the river during parts of the year for feeding, mating, and cover. Many native avian species also utilize the river throughout the year including the bald eagle (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*), wood ducks (*Aix sponsa*), black-bellied whistling ducks (*Dendrocygna autumnalis*), and various species of egrets and herons.

### 11.1.0 Threatened and Endangered Species

Potential impacts to threatened and endangered species were assessed as a part of the initial project planning. Species accounts and habitat requirements were collected and reviewed from the United States Fish and Wildlife Service (USFWS). According to parish lists provided by USFWS and the Louisiana Department of Wildlife and Fisheries (LDWF), the West Indian manatee (*Trichechus manatus*), pallid sturgeon (*Scaphirhynchus albus*), gulf sturgeon (*Acipenser oxyrinchus desotoi*), and the Alabama Heelsplitter Mussel (*Potamilus inflatus*) are federally listed as threatened and/or endangered species in Ascension and East Baton Rouge Parish, Louisiana. Sprague's Pipit (*Anthus sprauetii*) is listed as a candidate species in East Baton Rouge Parish, Louisiana. Although the bald eagle (*Haliaeetus leucocephalus*) has been federally delisted, it is still listed as endangered in the State of Louisiana.

The Endangered Species Act (ESA) and Migratory Bird Treaty Act (MBTA) Project Review process was conducted through the Louisiana Ecological Services on fws.gov. The pre-development coordination report generated from this process indicated that the project would have "no effect" on federally listed threatened or endangered species or designated critical habitat. Therefore, no further ESA coordination with the USFWS is required.

#### **11.1.1 West Indian Manatee**

The West Indian manatee is a large, barrel-shaped aquatic mammal with a small head that appears flat from the profile view. The front limbs are rounded flippers with hind limbs lacking and exhibits a large, spatula-shaped tail. Adult can reach lengths up to 13 feet and weights over 2,000 pounds. The manatee is an herbivore that eats a wide variety of aquatic plants. The manatee is generally found within rivers and estuaries, but can enter salt water when travelling from site to site. They prefer waters with submerged aquatic beds or floating vegetation.

Threats to the West Indian Manatee's population consist of a variety of human related activities and natural events. Manatees are often struck by barges and boats and suffer from poaching and harassment by boaters and divers. Habitat loss is also a large contributing factor as well as death by implementation of flood control structures. Natural causes for population loss are unusually cold weather and outbreaks of red tide.

During the site reconnaissance, no individual sightings were recorded within the limits of proposed project or the surrounding areas. Adverse impacts to the West Indian manatee are not anticipated with the proposed project because habitat loss will not be incurred and all construction activities will be conducted from the existing rail removing the risk of boat or barge collisions. The new bridge design will also reduce the current piling/bent configuration within Bayou Manchac.

#### **11.1.2 Pallid Sturgeon**

The pallid sturgeon is a relatively large fish ranging in adult size from 19.5 inches to 31.2 inches and weighing up to 65 pounds. The body is grayish-white above and white below. The head is shovel shaped and has a slender tail base. The tail has two (2) lobes with the top lobe larger than the bottom lobe. The mouth is on the bottom of the head and is preceded by several fleshy barbels. The preferred habitat is large rivers in the southeast in areas of strong currents over firm sandy bottoms. The pallid sturgeon feeds on aquatic insects and small fishes found in large rivers.

Threats to the pallid sturgeon include the channelization of rivers and construction of reservoirs, which hinders the spawning habits of the sturgeon as well as reducing access to remaining spawning sites. Changes in habitat and water quality have also caused a reduction in numbers of the pallid sturgeon. Interbreeding with the shovelnose sturgeon is also reducing the population numbers.

The proposed bridge replacement activities should not adversely impact the pallid sturgeon species as the current within the reach of Bayou Manchac within the project limits is relatively mild and the sturgeon prefers swift current. Also, the proposed project will not impede the movement of the sturgeon if they are present within this reach of Bayou Manchac. The proposed project is not intended to decrease the water quality within Bayou Manchac. As mentioned, the new bridge design will also reduce the current piling/bent configuration within Bayou Manchac reducing potential impediments.

### **11.1.3 Gulf Sturgeon**

The gulf sturgeon is a large fish that can reach up to eight (8) feet long and 200 pounds. They are typically light to dark brown and a cream to white color on the ventral surface. The body is described as sub-cylindrical. The head consists of an extended snout with four (4) tactile barbels in front of the mouth which is on the bottom of the head used for sensing prey. Most of its life is spent in marine waters and migrates to freshwater rivers to spawn. Spawning typically occurs near the headwaters of rivers and the summer months are spent in the mid to lower reaches of these rivers typically with sandy or rocky bottoms. The winter months are spent in gulf waters.

The numbers of gulf sturgeon declined throughout the 20<sup>th</sup> century due to overfishing. Habitat loss has also attributed to the decline through the construction of water control structures which has limited the spawning range of the sturgeon. Other threats include dredging, desnagging, and other navigation maintenance activities. Decreased water quality due to contamination of pesticides and heavy metals is also a threat to the gulf sturgeon.

Based upon the proposed project activities habitat loss or decrease in water quality is not anticipated. Therefore, the proposed bridge replacement activities should not adversely impact the gulf sturgeon.

### **11.1.4 Alabama Heelsplitter Mussel**

The Alabama Heelsplitter, which is referred to as the inflated Heelsplitter in the species recovery plan, is a large (sometimes reaching over 140 mm in length) freshwater mussel with a brown to black shell with green rays in young individuals. Like other freshwater mussels, the Alabama Heelsplitter feeds by filtering food particles from the water column. The specific food habits of the species are unknown, but other juvenile and adult freshwater mussels have been documented to feed on detritus, diatoms, phytoplankton, and zooplankton. The diet of Alabama Heelsplitter, like other freshwater mussels, comprises water (until encysted on a fish host) and fish body fluids. The preferred habitat of this species is soft, stable substrata in slow to moderate currents. It has been found in sand, mud, silt and sandy-gravel, but not in large or armored gravel. It is usually collected on the protected side of bars and may occur in depths over six meters (20 feet). The occurrence of this species in silt does not necessarily indicate that the species can be successful in that substratum. Adult mussels may survive limited amounts of silt, whereas juveniles would suffocate. In addition, it is possible that the species was established in an area prior to deposition of the silt.

Based upon the proposed project activities no habitat loss or decrease in water quality is anticipated. Therefore, the proposed activities should not adversely impact the Alabama Heelsplitter Mussel. Best management practices will be implemented throughout the construction sequence to prevent a reduction in downstream water quality and in turn preventing secondary adverse impacts to the species.

### **11.1.5 Sprague's Pipit**

The Sprague's pipit is listed as a candidate species by the USFWS meaning it warrants protection under the Endangered Species Act (ESA), but that listing the species under the



ESA is precluded by the need to address other listing actions of a higher priority. The pipit is a small grassland bird that have a buff and blackish streaking on the crown, nape, and underparts, a short bill with a blackish upper mandible and a buff colored face with large eye rings. These characteristics are exhibited by both male and females of the species. The breeding range for the pipit is in the prairies of the northern United States and southern Canada. The wintering range consists of parts of the southwest and southeast United States. The pipit requires open grassland habitat for breeding and wintering.

As discussed, the proposed project site is contained within a forested habitat along south side of the bridge crossing and within a forested to maintained open field habitat along the north side of the crossing. The Sprague's pipit requires open grasslands for breeding and wintering. Due to the lack of suitable habitat and human presence within the area, the proposed project is not anticipated to have any adverse impacts on the Sprague's pipit or its habitat.

#### 11.1.6 Bald Eagle

The bald eagle was removed from the federal list of threatened and endangered species list in June 2006 however; it continues to remain listed as endangered within the state of Louisiana. The Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act continue to protect the eagles from a variety of harmful actions and impacts. The National Bald Eagle Management Guidelines have been developed by the USFWS to help minimize impacts from activities that may constitute "disturbance" which is prohibited by the Bald and Golden Eagle Protection Act. The USFWS exercises enforcement discretion to focus on individuals, companies, or agencies that "take" (disturb, harm, or kill) migratory birds without regard for the consequences of their actions and the law, especially when conservation measures such as the National Bald Eagle Management Guidelines are available but have not been implemented.

The bald eagle is a large raptor with an average wingspan of about 5 feet. These birds are primarily riparian and are most often associated with coasts, rivers and lakes, usually nesting near bodies of water where it feeds. The nest of the bald eagle is constructed of large sticks with softer material including dead weeds, cornstalks, grasses, and sod added as nest lining. Nests are very large and can measure up to six feet in width and weigh hundreds of pounds. Often, eagles will reuse their nest year after year. In the southeast, nests are most often constructed in dominant or co-dominant pines and cypress trees. Typical tree species associated with bald eagle nests include loblolly pine (*Pinus taeda*), bald cypress (*Taxodium distichum*), oak (*Quercus spp.*), cottonwood (*Populus deltoides*) and American sycamore (*Platanus occidentalis*).

Although this species is known to exist within the general area, during our field reconnaissance, no individual occurrences or nests were noted within close proximity to the project site. No impacts to this species are expected as a result of the construction activities associated with this project.

As discussed, KCS currently maintains a 100 foot right-of-way within the project area, which is maintained for sole use of train traffic. This right-of-way consists of ballast fill to elevate the railroad track, which has been in place since the early 1900's. The existing ballast fill would encompass approximately half of the maintained 100 foot right-of-way through the project area. Additionally, the areas within the limits of the existing bridge structure that do not contain ballast have been significantly disturbed during the original bridge construction in 1938 and are also prone to frequent flooding from Bayou Manchac.

As a part of the initial planning process, N. Nicole Konkol, RPA of Headwaters, Inc. conducted a literature review of the proposed project area for the potential presence of cultural and historical resources. The recommendations from the literature review state that there is a low probability of the presence of undocumented cultural resources within the proposed project area. It further states that consideration should be given to whether the view shed of NRHP property 16EBR5 will be affected by any proposed development.

As discussed, the proposed project area is primarily contained within the existing KCS right-of-way. The preponderance of the KCS right-of-way is contained within the limits of the existing fill forming the rail bed for the mainline rail. The portions of the rail bed not containing existing fill have previously been disturbed during the initial construction of the mainline, bridge and maintenance activities associated with the bridge. Further, the adjacent property in the southeast corner of the project area that will be used for access is a residential home with maintained lawn, which evidence supports that it has been graded and significantly altered during the construction of the home. Therefore, it is not anticipated to disturb any previously undisturbed areas during the proposed bridge replacement activities. Further, based upon the project scope and the current site conditions, the discovery of previously undiscovered cultural resources within the limits of the project site would appear low. With respect to the view shed of the NRHP property 16EBR5, the plan to rehabilitate the existing bridge structure is not anticipated to alter the existing topography or view shed from its current condition.

### **13.0 GEOLOGICAL RESOURCES**

Review of the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Custom Soil Resource Report for Ascension Parish indicates the project area is contained within Galvez silty clay loam (Gb) soil type. This soil type is a somewhat poorly drained soil found on natural levees. It is typically found from 10 feet in elevation to 110 feet. The restrictive layer is typically found at more than 80 inches deep with the water table being typically 18 to 36 inches deep. The hydric rating by map unit is 5 meaning Galvez silty clay loam is made up of 5% hydric components. All areas designated as Galvez silty clay loam are classified as prime farmland. The typical soil profile is below:

- H1 – 0 to 6 inches: silty clay loam
- H2 – 6 to 43 inches: silt loam
- H3 – 43 to 62 inches: silty clay loam

Review of the USDA NRCS Custom Soil Resource Report for East Baton Parish revealed that the project area is contained within Galvez silt loam, 0 to 2 percent slopes, frequently flooded (GaB) and Oprairie silt, 0 to 1 percent slopes (OpA). Galvez silt loam, 0 to 2 percent slopes, frequently flooded is a somewhat poorly drained soils found on natural levees with a loamy alluvium parent material. The typically elevation ranges from 10 to 110 feet. The restrictive layer is found more than 80 inches deep and the water table is typically located 18 to 36 inches deep. This soil type is not designated as prime farmland. Galvez silt loam, 0 to 2 percent slopes, frequently flooded has a hydric rating by map unit of 85 meaning this soil type is made up of 85% hydric components. The typical soil profile is below:

- Ap – 0 to 7 inches: silt loam
- Bt1-3 – 7 to 47 inches: silt clay loam
- C1-2 – 47 to 80 inches: silty clay loam

Oprairie silt, 0 to 1 percent slopes is a somewhat poorly drained soils found on interfluvies. This soil is typically found from 50 feet to 460 feet in elevation. All areas described as Oprairie silt, 0 to 1 percent slopes are designated as prime farmland. The restrictive layer is found deeper than 80 inches and the water table is typically located at 12 to 30 inches. Oprairie silt, 0 to 1 percent slopes has a hydric rating by map unit of 2 meaning this soil type is made up of 2% hydric components. The typical soil profile is below:

- Ap – 0 to 4 inches: silt loam
- E – 4 to 9 inches: silt loam
- Bt,B/E,B't – 9 to 49 inches: silt loam
- BC – 49 to 86 inches: silt loam

#### 14.0 BOTANTICAL RESOURCES (Vegetation)

As discussed, KCS maintains a 100 foot right-of-way for sole use of train traffic within the project area. The railbed consists of ballast fill placed to elevate the railroad track. The limits of the existing fill extend approximately half of the 100 foot right-of-way. The remaining portions of the right-of-way would be described as bottomland hardwood forests or emergent wetland. Vegetation within the forested habitats includes box elder (*Acer negundo*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), bald cypress (*Taxodium distichum*), black willow (*Salix nigra*), sweetgum (*Liquidambar styraciflua*), sugarberry (*Celtis laevigata*), and water oak (*Quercus nigra*). The emergent wetland vegetation consists of *Polygonum spp.*, coco-yam (*Colocasia esculenta*), lizard's tail (*Saururus cernuus*), ladies ear drop (*Brunnichia cirrhosa*), palmetto (*Sabal minor*), box elder (*Acer negundo*) in the regeneration stage, and black willow (*Salix nigra*) in the regeneration stage. Additionally, a portion of the proposed project area that is located within the adjoining landowner's property that will be utilized for access purposes is contained within a maintained lawn consisting primarily of St. Augustine grass and Bermuda grass.

#### 15.0 WATER QUALITY AND QUANTITY

The project will include the removal of the existing creosote timber pilings within Bayou Manchac. The planned activities include the placement of steel H-pilings within the river. During construction, BMP's will be implemented and maintained as necessary through the construction

sequence to ensure that no secondary adverse impacts to adjacent habitats occur. BMPs may consist of silt fences, turbidity curtains, floating debris net booms, and any other measures needed to prevent sediment and debris from the construction process from entering Bayou Manchac. The construction plans will create only a temporary impact to the channel and are not intended to create long term impacts to water quality or fisheries habitat.

As previously noted, the bridge design is not intended to reduce or impede the current flows of Bayou Manchac. Further, the bridge design is not intended to change the velocities of the river. In fact, the new bridge design includes reducing the number of bents utilized to support the bridge from 41 currently to 13 proposed which according to the H&H analysis conducted will reduce the predicted upstream water surface from 16.93' to 16.79'.

## **16.0 HYDROLOGICAL FEATURES**

The proposed project location spans a segment of Bayou Manchac, a perennial stream. The new bridge will be constructed in the same location as the existing bridge and the existing bridge and pilings will be removed approximately one (1) foot below the mud line. Water levels in this area vary on a daily basis based on rain, wind, and tidal influence. The new bridge will be constructed with a similar design as the existing bridge with a shorter span. The new bridge is intended to maintain sufficient flows within Bayou Manchac. The project is not intended to impede water flows within the bayou or increase the base flood elevation upstream from the bridge structure. The proposed bridge design includes the reduction in number of bents utilized to support the bridge from 41 to 13.

Therefore, hydrological features within the project area should remain unaffected following the construction activities. As previously noted, the existing bridge structure has been in place since 1938.

## **17.0 CULTURAL RESOURCES**

As discussed, KCS currently maintains a 100 foot right-of-way within the project area, which is maintained for sole use of train traffic. This right-of-way consists of ballast fill to elevate the railroad track, which has been in place since the early 1900's. The existing ballast fill would encompass approximately half of the maintained 100 foot right-of-way through the project area. Additionally, the areas within the limits of the existing bridge structure that do not contain ballast have been significantly disturbed during the original bridge construction in 1938 and are also prone to frequent flooding from Bayou Manchac.

As a part of the initial planning process, N. Nicole Konkol, RPA of Headwaters, Inc. conducted a literature review of the proposed project area for the potential presence of cultural and historical resources. The recommendations from the literature review state that there is a low probability of the presence of undocumented cultural resources within the proposed project area. It further states that consideration should be given to whether the view shed of NRHP property 16EBR5 will be affected by any proposed development.

As discussed, the proposed project area is primarily contained within the existing KCS right-of-way. The preponderance of the KCS right-of-way is contained within the limits of the existing

fill forming the rail bed for the mainline rail. The portions of the rail bed not containing existing fill have previously been disturbed during the initial construction of the mainline, bridge and maintenance activities associated with the bridge. Further, the adjacent property in the southeast corner of the project area that will be used for access is a residential home with maintained lawn, which evidence supports that it has been graded and significantly altered during the construction of the home. Therefore, it is not anticipated to disturb any previously undisturbed areas during the proposed bridge replacement activities. Further, based upon the project scope and the current site conditions, the discovery of previously undiscovered cultural resources within the limits of the project site would appear low. With respect to the view shed of the NRHP property 16EBR5, the plan to rehabilitate the existing bridge structure is not anticipated to alter the existing topography or view shed from its current condition.

### 18.0 ECONOMIC IMPACT OF THE PROJECT

The KCS mainline in this area is part of a national and international transportation and trade system, which includes railroad, trucks, and maritime transportation. The KCS mainline within the New Orleans Subdivision services the Port of New Orleans at the Napoleon Avenue Intermodal Railyard and then traverses east-northeast along the east bank of the Mississippi River where many other industries are serviced. The mainline then traverses into Baton Rouge where KCS operates a major rail hub, which directs train traffic to various parts of the region and throughout the rest of the U.S. and Mexico. The proposed construction activities are intended to correct maintenance issues with the bridge and prevent potential down time along the mainline. Preventing downtime along the mainline rail would in-turn prevent interruptions in local, national, and international trade and economy.

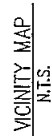






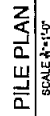
# BRIDGE L801.8

SHEET NUMBER	DRAWING TITLE
1	COVER SHEET
2	TRACK PLAN
3	TRACK PLAN
4	PILE PLAN & ELEV
5	PILE PLAN & ELEV
6	PILE PLAN & ELEV
7	PILE PLAN & ELEV
8	SECTIONS
9	SECTIONS
10	BRACING DETAILS
11	DETAILS
12	BILL OF MATERIALS
13	TEMPORARY GOLF

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DESCRIPTION	STATION	NORTHING	EASTING	LENGTH
EXIST'G FFEWB	12566+78.50	33438.64	66636.03	30°70'17.55" N 91°02'24.11" W
EXIST'G FFWB	12071+14.74	33441.76	66675.58	30°70'13.30" N 91°02'20.41" W
PROPOSED FFEWB	12566+68.03	33434.72	66664.77	30°70'17.52" N 91°02'24.11" W
PROPOSED FFWB	12566+70.30	33443.65	66676.55	30°70'14.56" N 91°02'16.57" W



KANSAS CITY SOUTHERN RAILWAY  
BRIDGE L801.8  
NEW ORLEANS SUBDIVISION  
PILE PLAN & ELEVATION

DRAWING BY:	VEL. MAP NO.:	DATE:	SHEET NO.:
BSM	XXX	JULY 27, 2015	4 of 13
APPROVED BY:	DRAWING NAME:	COM. E:	DRAWING NO.:
ALR	XX	AS NOTED	XX

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Journal of the American Statistical Association

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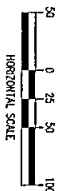
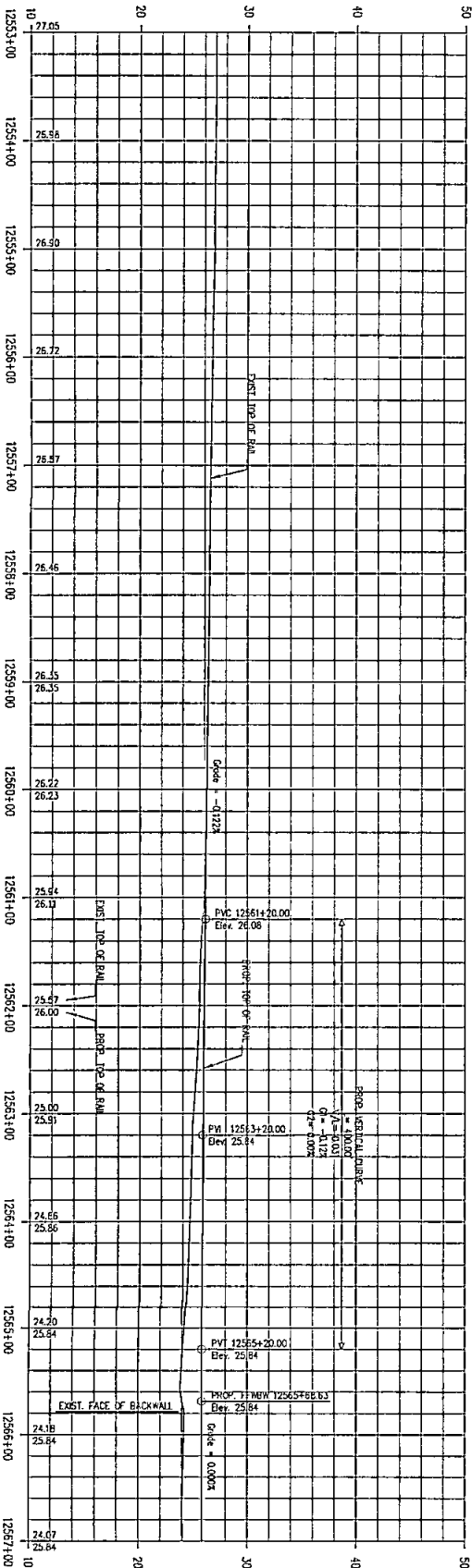
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LATIMER, LA  
RAILROAD WEST

NEW ORLEANS, LA  
RAILROAD EAST

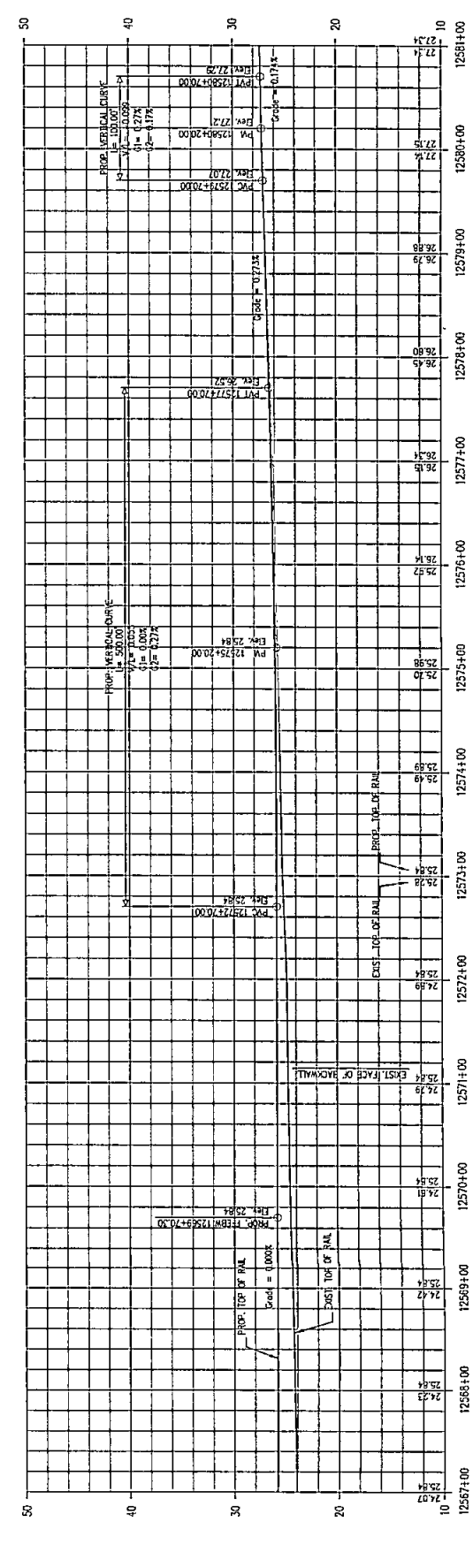
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CONTROL POINT 2	338463.12	65986.34	20.58	30°20'18.77"N	91°07'26.84"W	SET ALUMINUM CIP ON 5/8" IRON ROD
CONTROL POINT 3	338434.71	65986.61	21.97	30°20'16.51"N	91°07'18.85"W	SET ALUMINUM CIP ON 5/8" IRON ROD
CONTROL POINT 4	338448.73	65778.02	21.67	30°20'10.01"N	91°07'17.82"W	SET ALUMINUM CIP ON 5/8" IRON ROD
BP 802	338461.50	65759.80	-	30°20'07.95"N	91°07'15.65"W	-



REVISIONS			
NO.	DATE	BY	CHKD.
1	12/1/13	JKC	JKC
2	12/1/13	JKC	JKC
3	12/1/13	JKC	JKC
4	12/1/13	JKC	JKC
5	12/1/13	JKC	JKC
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KANSAS CITY SOUTHERN RAILWAY  
BRIDGE 1801.8  
NEW ORLEANS SUBDIVISION  
TRACK PLAN

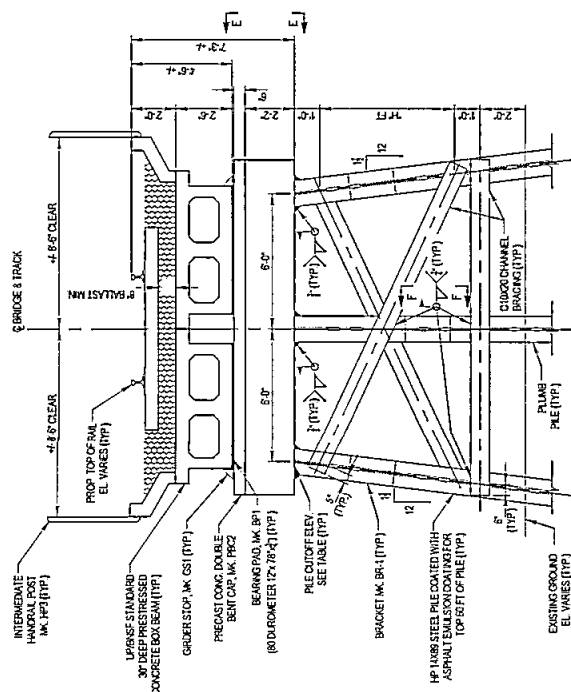
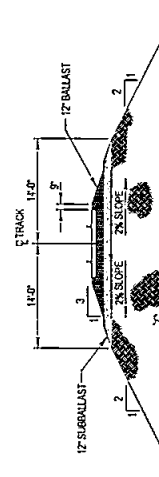
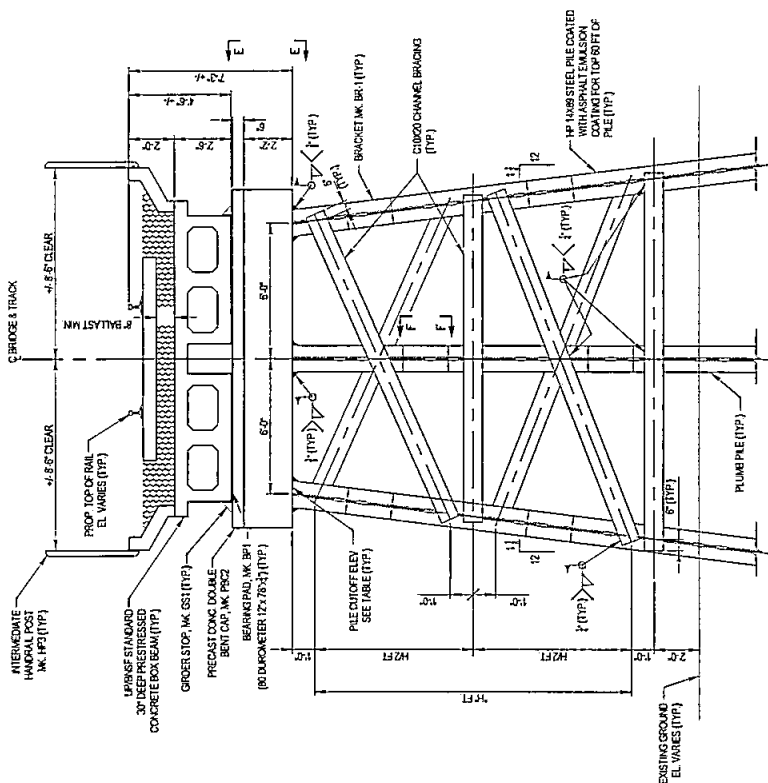


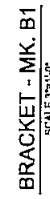
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NEW ORLEANS, LA  
RAILROAD EAST

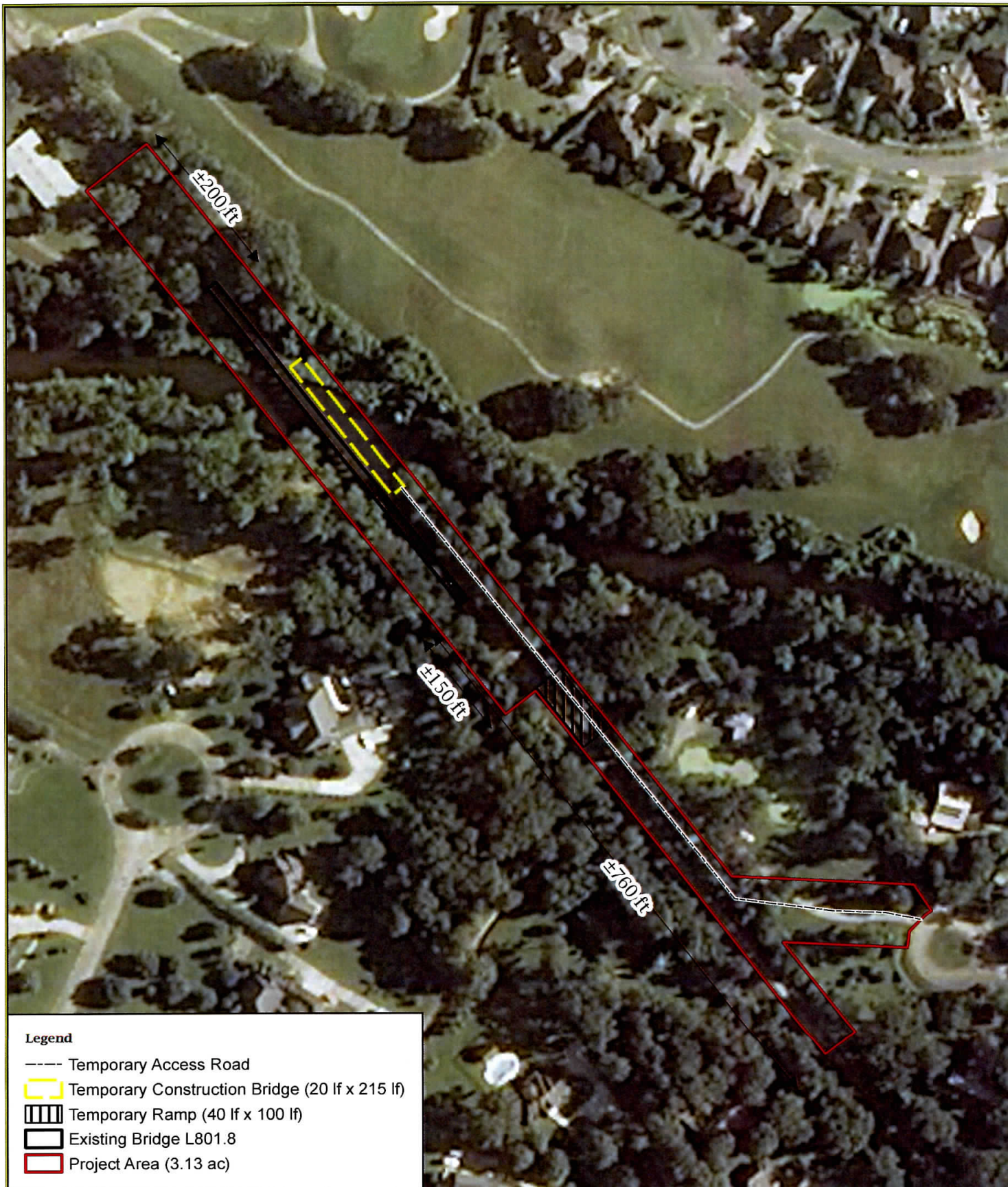


## SCALE: 1/8" = 1'-0"

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		LOCATION		NEW ORLEANS SUBDIVISION	
		TEMPORARY		TEMPORARY GOLF CART	
		CROSSING		CROSSING PLAN	
		DATE		DATE	
		BY		BY	
		CHECKED		CHECKED	
		APPROVED		APPROVED	
		SCALE		SCALE	
		SHEET NO.		SHEET NO.	
		TOTAL SHEETS		TOTAL SHEETS	
		PROJECT NO.		PROJECT NO.	
		CONTRACT NO.		CONTRACT NO.	
		DRAWING NO.		DRAWING NO.	
		REVISIONS		REVISIONS	
		DATE		DATE	
		BY		BY	
		CHECKED		CHECKED	
		APPROVED		APPROVED	
		SCALE		SCALE	
		SHEET NO.		SHEET NO.	
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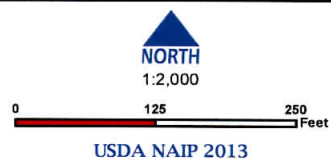






**The Kansas City Southern Railway Co.  
Bridge L-801.8 New Orleans Sub**

Ascension & East Baton Rouge Parishes, Louisiana  
[Proposed Site Layout Map](#)





# **KCS – Bridge L801.8 Replacement Project**

**Ascension and East Baton Rouge Parish, Louisiana  
May 2015**

**PHOTOGRAPH #1**



**View to the north across Bayou Manchac from the south bank along the east side of the existing timber bridge structure.**

**PHOTOGRAPH #2**



**View to the north across Bayou Manchac from the south bank along the west side of the existing timber bridge structure.**

# **KCS – Bridge L801.8 Replacement Project**

**Ascension and East Baton Rouge Parish, Louisiana  
May 2015**

**PHOTOGRAPH #3**



**View to the south across Bayou Manchac from the north bank along the west side of the existing timber bridge structure.**

**PHOTOGRAPH #4**



**Photo taken looking generally to the southeast, downstream within Bayou Manchac at the location of the proposed bridge replacement project. Photo is taken from the north bank.**

# **KCS – Bridge L801.8 Replacement Project**

## **Ascension and East Baton Rouge Parish, Louisiana**

### **May 2015**

**PHOTOGRAPH #5**



**Photo taken looking generally to the west, upstream, within Bayou Manchac from within the proposed project area. Photo is taken from the north bank.**

**PHOTOGRAPH #6**



**Photo taken looking generally north from the existing south bridge abutment along the east side of the existing bridge structure.**



# **KCS – Bridge L801.8 Replacement Project**

**Ascension and East Baton Rouge Parish, Louisiana  
May 2015**

**PHOTOGRAPH #7**



**View to the north along the east side of bridge structure along the south bank of Bayou Manchac.**

**PHOTOGRAPH #8**



**Photo of the existing conditions under the existing bridge along the south bank of Bayou Manchac.**

# **KCS – Bridge L801.8 Replacement Project**

**Ascension and East Baton Rouge Parish, Louisiana**

**May 2015**

**PHOTOGRAPH #9**



**Photo taken looking generally south depicting the top bank of the north side of Bayou Manchac along the west side of the existing bridge structure.**

**PHOTOGRAPH #10**



**View to the north along east side of the existing bridge structure from the north bank of Bayou Manchac.**